UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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DAVIS WRIGHT TREMAINE, LLP
2600 CENTURY SQUARE
1501 FOURTH AVENUE
SEATTLE, WA 98101-1688

EXAMINER
DUONG, FRANK

ART UNIT	PAPER NUMBER
2666	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)
Office Action Summary		09/777,925	KIM ET AL.
		Examiner	Art Unit
		Frank Duong	2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>25 January 2005</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-32</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1,2,11-13 and 22-32</u> is/are rejected.

7)☒ Claim(s) <u>3-10 and 14-21</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>25 January 2005</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>7/23/01 and 1/25/05</u>

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

1. This Office Action is a response to communications dated 03/07/05. Amended

claims 1-23 and newly added claims 24-32 are pending in the application.

Information Disclosure Statement

2. The information disclosure statement filed 7/23/01 and refilled 1/25/05 complies with

the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. It has been considered and

placed in the application file.

Drawings

3. The drawings filed 01/25/05 are objected to under 37 CFR 1.83(a). The drawings

must show every feature of the invention specified in the claims. Therefore, the

"congestion detector", recited in claim 12; "normal operation detector", recited in claim

14; "a monitor module configured to monitor ... virtual private network path", recited in

claims 24-28 and "a monitor module configured to monitor ... virtual private network

path", must be shown or the feature(s) canceled from the claim(s). No new matter

should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Specification

4.   The specification is objected to as failing to provide proper antecedent basis for the

claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of

the following is required: "a monitor module configured to monitor ... virtual private

network path", recited in claims 24-28 and "a monitor module configured to monitor ...

virtual private network path", recited in claims 29-32.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of
making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 24-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention. There is no support for the claimed features of "a

monitor module configured to monitor ... virtual private network path", recited in claims

24-28 and "a monitor module configured to monitor ... virtual private network path",

recited in claims 29-32 in the original specification structurally and functionally in a

manner set forth as claimed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 11-13, 22-24, 27, 29 and 31-32 are rejected under 35 U.S.C. 102(e) as

being anticipated by Klink (Pub. No.: US 2003/0063561) (hereinafter "Klink").

Regarding **claim 1**, in accordance with Klink reference entirety, Klink discloses a

method for implementing protection switching for a virtual private network (*VPN is*

inherent in MPLS network of Fig. 2) comprising the steps of:

establishing a working virtual private network path (Fig. 2; WE) and a protection

virtual private network path (PE) between a first edge node (W) and a second edge

node (E); and

switching traffic (SN) from the working virtual private network path (WE) to the

protection virtual private network path (PE) when detected traffic congestion (failure) in

the working virtual private network path exceeds a predetermined threshold (SIGNAL

DEGRADE) (*pages 1-2, paragraph [0015]*).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales

discussed above), Klink further discloses detecting failure of the working

virtual private network path; and switching traffic from the working virtual

private network path to the protection virtual private network path when

failure of the working virtual private network path is detected (*page 2, paragraph 0015*

and thereinafter).

Regarding **claim 12**, in accordance with Klink reference entirety, Klink shows an

apparatus for protection switching of a virtual private network (VPN is inherent in MPLS

network of Fig. 2) comprising:

a working virtual private network path (WE) connected between a first edge node

(W) and a second edge node (E);

a protection virtual private network path (PE) connected between the first edge

node (W) and the second edge node (E);

a congestion detector (*not shown; inherent as disclosed at page 2, left column,*

first paragraph pertaining total failure); and

a data switch (SN), wherein when data (WT) is transmitted across the

working virtual private network path (WE), said congestion detector is configured to

detect traffic congestion on said working virtual private network path and said data

switch switches said data from said working virtual private network path to said

protection virtual private network path when said traffic congestion exceeds a

predetermined threshold (SIGNAL DEGRADE) (*page 2, left column, first paragraph and*

thereinafter).

Regarding **claim 11**, in addition to features recited in base claim 1 (see

rationales discussed above), Klink further shows a plurality of quality of service

parameters (Fig. 3; priorities associated with Request) assigned to said working virtual

private network path and said protection virtual private network path (page 2, paragraph

[0018]. Klink further states protection switching requests are prioritized to give

preferential treatment of a request. As the result, the W and E label switch routers are

inherently synchronized).

Regarding **claim 13**, in addition to features recited in base claim 12 (see

rationales discussed above), Klink further shows a failure detector (UE), wherein

said failure detector detects failure of said working virtual private network path and said

data switch switches said data from said working virtual private network path to said

protection virtual private network path when said failure is detected by said failure

detector (page 2, left column, first paragraph).

Regarding **claim 22**, in addition to features recited in base claim 12 (see

rationales discussed above), Klink further shows a plurality of quality of

service parameters (Fig. 3; priorities) assigned to said working virtual private network

path and said protection virtual private network path (*priorities assigned to protection*

switching requests are discussed in page 2, paragraph [0018] in reference to Fig. 3).

Regarding **claim 23**, in addition to features recited in base claim 22 (see

rationales discussed above), Klink further shows wherein said first edge node and said

second edge node are synchronized according to said plurality of quality of service

parameters (page 2, paragraph [0018]. Klink further states protection switching

requests are prioritized to give preferential treatment of a request. As the result, the W

and E label switch routers are inherently synchronized).

Regarding **claim 24**, in accordance with Klink reference entirety, Klink discloses

an apparatus (Fig. 2) to implement switching between a working virtual private network

path (WE) and a protection virtual private network path (PE) between a virtual private

network (VPN is inherent in MPLS network of Fig. 2), comprising:

a monitor module (UE) configured to monitor the working virtual private network

path (WE) to monitor traffic flow thereon, the monitor module configured to cause a

switch (SN) in traffic from the working virtual private network path (WE) to the protection

virtual private network path (PE) in response to a detected event (SIGNAL DEGRADE)

selected from a group of events comprising congestion in the working virtual private

network path that exceeds a predetermined threshold and link failure in the working

virtual private network path (*page 2, left column, first paragraph, Klink discloses*

monitoring device UE monitors, detects and causes the switch SN to switch from WE to

PE in an event of a total failure).

Regarding **claim 27**, in addition to features recited in base claim 24 (see

rationales discussed above), Klink further discloses the monitor module (UE) being

integrated into label switch router (W or E) (see Fig. 2).

Regarding **claim 29**, in accordance with Klink reference entirety, Klink discloses

a virtual private network (VPN is inherent in MPLS network of Fig. 2), comprising:

a label switch router (W or E) configured for communication over a

communication network, the router/switch being configured to established a working

virtual private network path (WE) and a protection virtual private network path (PE) over

the communication network (see Fig. 2 for connection detail);

a monitor module (UE) configured to monitor the working virtual private network

path (WE) to monitor traffic flow thereon, the monitor module configured to cause a

switch (SN) in traffic from the working virtual private network path (WE) to the protection

virtual private network path (PE) in response to a detected event (SIGNAL DEGRADE)

selected from a group of events comprising congestion in the working virtual private

network path that exceeds a predetermined threshold and link failure in the working

virtual private network path (*page 2, left column, first paragraph, Klink discloses

monitoring device UE monitors, detects and causes the switch SN to switch from WE to

PE in an event of a total failure*).

Regarding **claim 31**, in addition to features recited in base claim 29 (see

rationales discussed above), Klink further discloses the monitor module (UE) being

integrated into label switch router (W or E) (see Fig. 2).

Regarding **claim 32**, in addition to features recited in base claim 29 (see

rationales discussed above), Klink further discloses wherein the monitor module (UE) is

configured to operate independently from the label switch router (W or E) (Fig. 2 and

pages 1-2, paragraphs [0015]-[0017], Klink shows UE are arranged at both ends of the

working (WE) and protection link (PE). Thus, UE operates independently from the label

switch router (W or E). Moreover, on page 2, paragraph [0023], Klink clearly states

"each MPLS connection is monitored and protection-switched individually".

Allowable Subject Matter

7. Claims 3-10, 13-21 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject

matter:

The prior art of record, considered individually or in combination, fails to show or

suggest the claimed invention of base claims 1 and 12 and further limit with novel and

unobvious limitations of switching from the protection virtual private network path to the

working virtual private network path should the failure is fixed as recited in claims 3-7

and 14-18; and sending time stamps in a manner as recited in claims 8-10 and 19-21.

Response to Arguments

8. Applicant's arguments with respect to rejected claims have been considered but are

moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

    Anderson et al (USP 6,535,481).

    Mo et al (USP 6,775,229).

    Yamano (USP 6,636,516).

    Klink (USP 6,236,640).

    Rosen et al, BGP/MPLS VPNs, RFC 2547, pages 1-25, 1999.

    Casey et al, IP VPN Realization using MPLS Tunnels, Internet Draft, pages 1-18,

1998.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this

Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

    A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

11.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Frank Duong whose telephone number is 571-272-

3164. The examiner can normally be reached on 7:00AM-3:30PM, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

FRANK DUONG
PRIMARY EXAMINER

May 18, 2005